### **ENVIRONMENTAL CHEMISTS**

Date of Report: April 8, 1996 Date Received: April 4, 1996

Project: Metro Self Monitor, PO #M52864 Date Samples Extracted: April 5, 1996 Date Extracts Analyzed: April 5, 1996

## RESULTS FROM THE ANALYSIS OF THE WATER SAMPLE FOR CHROMIUM, COPPER, NICKEL, AND ZINC USING METHOD 6010

# Samples Processed Using Method 3005A

Results Reported as mg/L (ppm)

| <u>Sample ID</u> | <u>Chromium</u> | <u>Copper</u> | <u>Nickel</u> | <u>Zinc</u> |
|------------------|-----------------|---------------|---------------|-------------|
| M52864           | 0.68            | 0.36          | 0.30          | < 0.05      |
|                  |                 |               |               |             |
| Method Blank     | < 0.05          | < 0.05        | < 0.05        | < 0.05      |

### **ENVIRONMENTAL CHEMISTS**

Date of Report: April 8, 1996 Date Received: April 4, 1996

Project: Metro Self Monitor, PO #M52864

# QUALITY ASSURANCE RESULTS FOR TOTAL METALS BY INDUCTIVELY COUPLED PLASMA (ICP) (METHOD 6010)

Laboratory Code: 67731 (Duplicate)

| Analyte: | Reporting<br>Units | Sample<br>Result | Duplica<br>Resul | A SECTION AND ADMINISTRATION AND | Acceptance<br>Criteria |
|----------|--------------------|------------------|------------------|--|------------------------|
| Chromium | mg/L (ppm)         | 0.68             | 0.70             | 9  | 0-20                   |
| Copper   | mg/L (ppm)         |                  | 0.70             | 5  | 0-20                   |
| Nickel   | mg/L (ppm)         | 0.30             | 0.32             | 6  | 0-20                   |
| Zinc     | mg/L (ppm)         | < 0.05           | <0.05            | nm   | 0-20                   |

Laboratory Code: 67731 (Matrix Spike)

|          | Reporting  | Spike | e Sample | %] | Recovery | Acceptanc | Relative<br>e Percent |
|----------|------------|-------|----------|----|----------|-----------|-----------------------|
| Analyte: | Units      | Leve  | l Result | MS | MSD      | Criteria  | Difference            |
|          |            |       |          |    |          |           |                       |
| Chromium | mg/L (ppm) | 5     | 0.68     | 96 | 99       | 80-120    | 3                     |
| Copper   | mg/L (ppm) | 5     | 0.36     | 94 | 93       | 80-120    | 1                     |
| Nickel   | mg/L (ppm) | 10    | 0.30     | 93 | 96       | 80-120    | 3                     |
| Zinc     | mg/L (ppm) | 5     | < 0.05   | 92 | 94       | 80-120    | 2                     |

Laboratory Code: Spike Blank

|          |  |       |     |          |                                   | Relative                                  |
|----------|--|-------|-----|----------|-----------------------------------|---|
|          | Reporting  | Spike | % F | Recovery | Acceptance                        | Percent                                   |
| Analyte: | Units  | Level | MS  | MSD      | Criteria                          | Difference                                |
|          |  |       |     |          |                                   |   |
| Chromium | mg/L (ppm)   | 5     | 102 | 103      | 80-120                            | 1   |
| Copper   | mg/L (ppm)   | 5     | 104 | 105      | 80-120                            | 1   |
| Nickel   | mg/L (ppm)   | 10    | 100 | 102      | 80-120                            | 2   |
| Zinc     | mg/L (ppm)   | 5     | 96  | 98       | 80-120                            | 2   |
|          | " "New York and the State of th |       |     |          | form of the Book of the Police of | e, the bill that you have after being the |

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

FRIEDMAN & BRUYA, INC. 3012 16th Avenue West Seattle, WA 98119-2029 (206) 285-8282

FORMS/COC

# SAMPLE CHAIN OF CUSTODY

| Send Report To: ASC            | FAN COPPER L   | appear Works Contact GERALD Thompson   |                    |                 |             |   |        |
|--------------------------------|--|--|--------------------|-----------------|-------------|---|--------|
| Address 628                    | HAN Sond 50  |  |                    | 7%              |             |   | V      |
| City, State, Zip Sex           | He up 9  | 8134                                   |                    |                 |             |   |        |
| Phone # (200) 38               | 32-8775  |  |                    | Date            | 4-4-5       | <u></u>   |        |
| SITE NO.                       |  |  | CT NAME            |                 | P(          | JRCHASE ORDI  | ER#    |
| 723                            |  | netro s                                | elf r              | ins. tox        |             | 2864  |        |
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| the of                         | 7/   |  |                    | <u> </u>        |             | GAN K   |        |
| REMARKS                        |  |  |                    |                 | THE CO.     | DISPOSAL INFO   |        |
|                                |  |  |                    |                 | Rei         | spose after 30 da<br>turn Samples<br>Il for Instruction |        |
| Samjile#                       | Date/Time<br>Sampled   | Type of<br>Sample                      | # of<br>Jars       | Lab<br>Sample / |             | Analyse<br>Request                                      | s .    |
| m52861                         | 3/4/51 1:30  | H20                                    |                    | 6773            | 1 cr        |   | 1, 20  |
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| SIGNATURE                      | Р  | RINT NAME                              |                    | COMPAN          | Y           | Date  | Time   |
| Retriguished b                 | SERAY)   | A. Thomps                              |                    | A.C.L           | ر           | 4/4/56  | 2:127  |
| Received by:                   | TURT   | JOHNSON                                |                    | □<br>□B,工       |             | 4/4/96  | 2:15PM |
| Relinquished by                |  |  |                    | <u> </u>        |             | 111   |        |
| Received by:                   |  | ······································ |                    |                 |             |   |        |
|                                |  | ** .                                   |                    | 7 7             | l           |   |        |

09/19/94

### **ENVIRONMENTAL CHEMISTS**

Andrew John Friedman James E. Bruya, Ph.D. (206) 285-8282 3012 16th Avenue West Seattle, WA 98119-2029 FAX: (206) 283-5044

April 8, 1996

Gerry Thompson, Project Manager Alaskan Copper Works 628 South Hanford Seattle, WA 98134

Dear Mr. Thompson:

Enclosed are the results from the testing of material submitted on April 4, 1996 from your Metro Self Monitor, PO #M52864 project.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Kurt Johnson

Chemist

keh

Enclosures

FAX: 382-7335

ACU0408R.DOC

### **ENVIRONMENTAL CHEMISTS**

Andrew John Friedman James E. Bruya, Ph.D. (206) 285-8282 3012 16th Avenue West Seattle, WA 98119-2029 FAX: (206) 283-5044

April 8, 1996

### **INVOICE #96ACU0408-1**

Accounts Payable Alaskan Copper Works 628 South Hanford Seattle, WA 98134

RE: Project Metro Self Monitor, PO #M52864: Results of testing requested by Gerry Thompson, Project Manager for material submitted on April 4, 1996.

1 water sample analyzed for Chromium, Copper, Nickel, and Zinc using Method 6010 @ \$65 per sample \$65.00

Amount Due \$65.00